Common Object Model Data Update

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OM Content Standards Development Plan

Development Activities

- Task 1: DIF's and Libraries
- Task 2: Quick Start Content Analysis
- Task 3: Common Semantics and Syntax Development
- Task 4: HLA Data Dictionary Implementation
- Task 5: OM Development Tool Integration

Prioritized Program Support

- Phase 1: HLA early initiatives
- Phase 2: Additional AMG program requirements
- Phase 3: Broad DoD M&S support

Realtime Platform Reference FOM Objectives

Transistion IEEE 1278 Standards to HLA

- DIS/SISO working group
- DMSO Data Group participation
- Staged Approach

Target Audience

- Realtime
- Human-in-the-Loop
- Platform Level

Template for Building a Federation Instance

- Composable Solutions Emphasis
- Select from Reference Classes, Attributes, Interactions,...

RPR FOM Products/Schedule

Products	Due
• IEEE 1278.1 Compatibility Reference FOM	3/97
• DIS 2.1.4 Compatibility Reference FOM	9/97
• HLA Best Solution Reference FOM	3/98

1278.1 Compatibility Version Status

• Object Class Structure Table	Complete
• Interaction Table	Complete
• Attribute Table	Complete
• Parameter Table	Complete
• Complex Data Types	Complete
• Enumerated Data Types	N/A
• Update Conditions	Partial
• Glossary	Partial

Example Class Table

RPR-FOM - Object Class Structure Table

Base Class	1st Subclass	2nd Subclass	3rd Subclass
BaseEntity (S)	PhysicalEntity (PS)	MilitaryEntity (S)	MilitaryPlatformEntity (PS)
			MunitionEntity (PS)
			Soldier (PS)
	AggregateEntity (PS)		
	EnvironmentEntity (PS)		
AttachedSystem (N)	EmitterSystem (PS)		
	RadioTransmitter (PS)		
	RadioReceiver (PS)		
	Designator (PS)		
EmitterBeam (PS)	TrackJamBeam (PS)		

RPR FOM to DDDS Matching

Products

- DDDS Lexicon
- Class Objects to DDDS
- Class Attribute to DDDS
- Interaction parameters to DDDS
- RPR structures to DDDS

Results: 204 possible matches for the 157 terms

- Equivalent 19% (30)
- Similar 39% (61)
- No Match 42% (66)

RPR FOM Structure to DDDS Example

PositionStruct	PositionWGS84Struct or		see Positi
	PositionLatLongStruct or		see Positi
	PositionUTMStruct		see Positi
PositionLatLongStruct	Latitude	GEOLOCATION LATITUDE COORDINATE	Equivaler
	Longitude	GEOLOCATION LONGITUDE COORDINATE	Equivaler
	Height	POINT ELEVATION TYPE CODE	Similar
PositionUTMStruct	X	POINT LATITUDE COORDINATE	Similar
	Y	POINT LONGITUDE COORDINATE	Similar
	Z	POINT ELEVATION TYPE CODE	Similar
	Zone	LATITUDE-LONGITUDE-GRIDDED-GEOPHYSICAL-DATA-SET GRID POINT LOCATION CODE	Similar
PositionWGS84Struct	X	POINT LATITUDE COORDINATE	Similar
	Y	POINT LONGITUDE COORDINATE	Similar
	Z	POINT ELEVATION TYPE CODE	Similar

DDDS Lexicon Example

DDDS Name	DDDS Data Type	DDDS Units	DDDS Definition
GEOLOCATION LATITUDE COORDINATE	FLOATING-POINT	DEGREES	THE COORDINATE WHICH INDICAT LATITUDE OF A DESIGNATED PLAC MILITARY INTEREST.
GEOLOCATION LONGITUDE COORDINATE	FLOATING-POINT	DEGREES	THE COORDINATE WHICH INDICAT LONGITUDE OF A DESIGNATED PLA MILITARY INTEREST.
LATITUDE-LONGITUDE-GRIDDED-GEOPHYSICAL-DATA-SET GRID POINT LOCATION CODE	STRING(2)		LATITUDE-LONGITUDE-GRIDDED-GEOPHYSICAL-DATA-SET GRID POI LOCATION CODE
NETWORK-SET IDENTIFIER OBJECT-CLASS IDENTIFIER	STRING(5) STRING(5)		THE IDENTIFIER THAT REPRESENT: NETWORK-SET. THE IDENTIFIER THAT REPRESENT: OBJECT-CLASS.
ORGANIZATION FRIEND FOE CODE			THE CODE THAT DENOTES WHETH SPECIFIC ORGANIZATION IS FRIEN
POINT ELEVATION TYPE CODE	STRING(1)		POINT ELEVATION TYPE CODE
POINT LATITUDE COORDINATE	FLOATING-POINT	DECIMAL-DEGREES	THE COORDINATE IDENTIFYING TH POSITION OF A POINT RELATIVE TO EQUATOR IN THE WORLD GEODET SYSTEM 1984 (WGS 84) FRAME OF REFERENCE.
POINT LONGITUDE COORDINATE	FLOATING-POINT	DECIMAL-DEGREES	THE COORDINATE IDENTIFYING TH POSITION OF A POINT RELATIVE TO ZERO MEDIAN IN THE WORLD GEO SYSTEM 1984 (WGS 84) FRAME OF REFERENCE.

OM Data Content Issues:

- "Short Form Arguments" versus
  Long DDDS Logical Names

- Structural Mismatches

- Complex Transformations, particulary in EW

RPR FOM Development Issues:

- Working with TST Core Group to resolve OMT/ RTI related questions and issues

Presentation Outline

Task 3. Common Semantics and Syntax

→ **RPR FOM Status Report**

- **Objectives**
- **Schedule**
- **DDDS mapping/matching results**
- **Issues**

Task 4. HLA Data Dictionary Implementation

→ **DART Upgrade Status Report**

- **Objectives**
- **Version 1.09 Capabilities**
- **Action/Verb Analysis**

DART Upgrade Status Report

Data Analysis and Reconciliation Tool (DART)

- Developed by OPNAV N62 for DDDS submissions
- Modified for DMSO to map/match data elements

Modifications for OM Content Standards

- Version 1.09
  - UJTL Structures
  - USMTF Formats
- In Progress
  - Extend mapping/matching capability (structural mismatches)
  - Extend import/export capability (CMMS Verb Dictionary)
  - Interface to OM Development Tools

Next Step

- Analyze UJTL and CMMS Verb hit-rates

Common OM Data Update

Backup Slides

HLA FOM/SOM Content Standards

Data Standards are the third component of the M&S CTF:

- HLA OMT provides the structure for FOM's and SOM's
- FOM/SOM content standards couple HLA and Data Standards

FOM/SOM Objectives:		Content Standards Solutions:
Recognition	→	Common Semantics and Syntax
Realization	→	Integration with OM Dev. Tools
Repeatability	→	Integration with FEDEP
Reuse	→	OMT-DIF, FED-DIF, OM Library, HLA-DD

Phase 1: HLA Early Initiatives

Target Consumers

- IEEE 1278.1 Ref FOM
- C2-IPT (e.g JSIMS Testbed/ MRCI)
- HLA T&E Applications

Existing Standards

- DoD Enterprise Model
- DoD Data Dictionary System
- Universal Joint Task List
- CMMS Verb Dictionary

Standards Producers

- Roy Scrudder (lead)
- Earl Williamson
- Sibylle Gonzales
- Peter Valentine
- GRCI, IMC, ARL:UT, AEgis, TASC, JDBE
- DE-TFG

Advice & Consent

- AMG
- SISO
- M&S FDAd